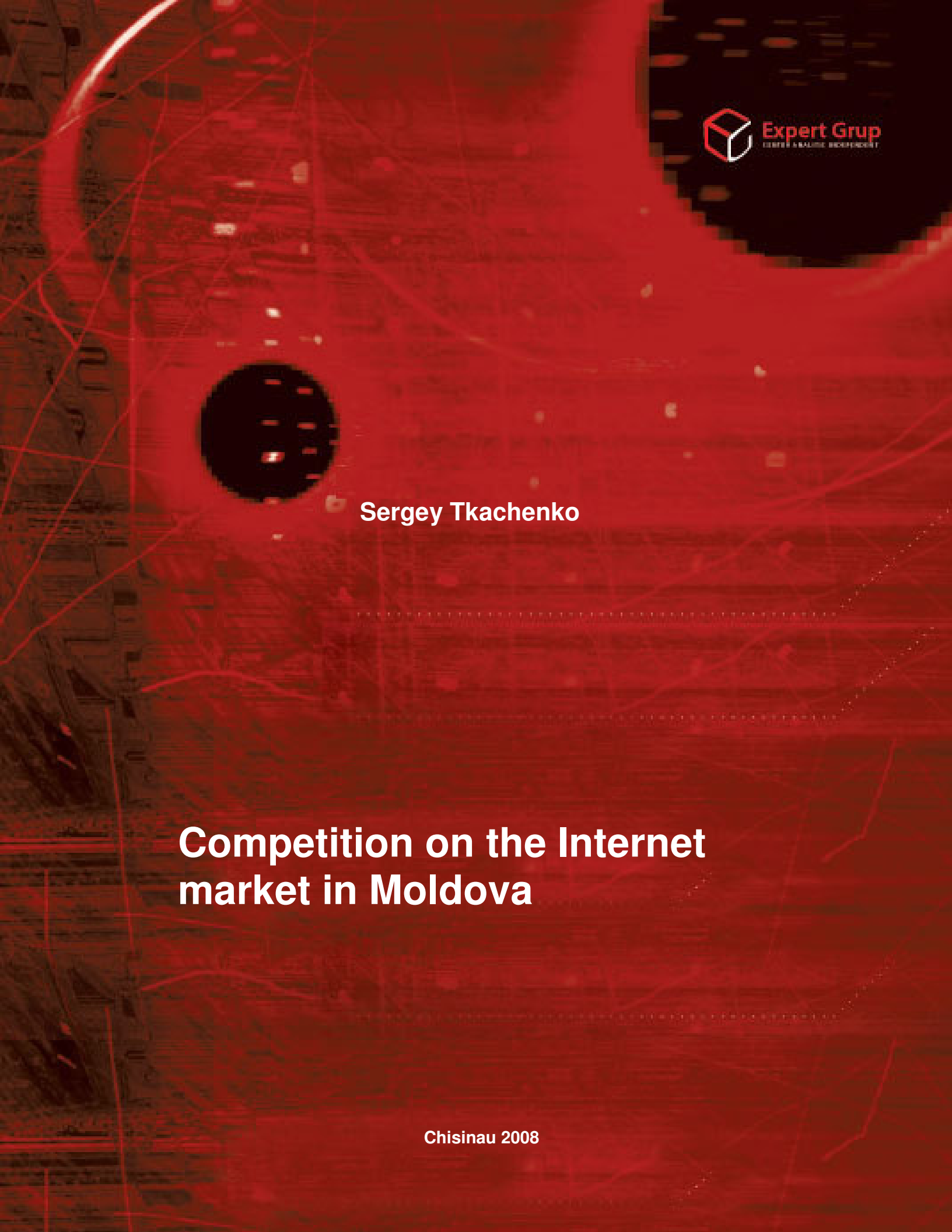

Sergey Tkachenko

Competition on the Internet market in Moldova

Chisinau 2008

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Author: Sergey Tkachenko

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Abbreviations

ADSL – (asymmetric DSL) – data transmission technology from the xDSL generation, which has information reception speed up to 8 mbps and transmission speed up to 1.5 mbps to users (the reason why it is called asymmetric). The system is effective at the 5.5 km distance between the user and communication center

Broadband Internet – Various technologies for connecting the user to the network, which have a speed exceeding 128 kbps. This speed can be reached with xDSL, FTTx, cable connections as well as with wireless technologies

Dial up – user connection system with the communication center or server via telephone line or modem, which converts the digital signals into analog signals and vice versa. It generates a 56 kbps connection speed.

FTTx – (Fiber to the x) – technology using optical fiber for connecting users to the network. Depending on cable this technology provides a 100 mbps data exchange speed on any user distance from the communication center or server

MTC – JSC Moldtelecom

Last mile – general term to describe the connection between user and communication center. The centers are connected between them with high speed channels, transmitting information to several users.

TMG – I.M. Telemedia Group JSC

Universal Mobile xDSL – (Digital Subscriber lines) – technology for transmitting data using copper phone cable for last mine connections. Data is transmitted on frequencies, which are not used for transmitting voice data. This helps using both internet and phone line at the same time.

UMTS – (universal mobile telecommunications system) – technology for wireless data transmission with 3.6 mbps speed. It is used by mobile operators, providers of 3G services – picture transmission between users during the call. This system can be used as last mile technology.

WiMax - (Worldwide Interoperability for Microwave Access) – technology for high speed data transmission. It can be used as last mile technology for connecting remote users to communication centers.

3G – general term to describe mobile lines of the third generation. The technology is characterized by high data transmission speed, which allows carrying out video conferences.

Conclusions and recommendations

- The development and population access growth rate to the Internet services in Moldova lags behind the world and regional tendencies. Internet penetration rate in the country constitutes only 3.22%, while broadband penetration rate constitutes only 1,38%
- Internet user growth rate remains low, while investments in attracting new users are high for providers even in Chisinau, which has the biggest user density
- When competing for users, providers on the market do not differentiate their prices and conditions. The key winning factor in this competition remains the set up of new land lines (networks) and provider physical capacity to connect users. This is the reason why issues related to developing the brand or creating a customer loyalty program do not represent a priority. Everyone is currently involved in building new lines.
- In 2007, there was a number of leading companies (they create and develop their network lines) and outsiders (companies which use the MTC infrastructure). Leaders become less dependent on MTC, while developing not only the network throughout Moldova but also external Internet channels (radio relay connection lines)
- MTC share on the Internet market is growing due to rising offer of ADSL and FTTx technologies and aggressive price policy. In 2007, MTC had to pay more attention to market competition factors (prices, service quality) in order to retain and draw new customers and avoid administrative measures for gaining control over providers and market itself
- In 2008 the law on electronic communications was adopted, which leaves unchanged the government control over the market. The government continues giving full rights to an independent body (ANRCETI) for market regulation, leaving unclear the universal rules of interaction between operators
- In conditions of a limited market capacity and weak business, which could develop on-line services and Internet in Moldova, the government agencies have the key role in developing the market. The expected government measures are well known and have long been determined before, but nothing is done due to lack of political will for applying necessary measures towards market liberalization.

Internet access service market in Moldova

According to the National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI) by the end of 2007 the number of Internet users (who have a contract signed with Internet providers) in Moldova reached 110.200 (which is up by 33.3% since 2006). A total of 226.3 mln MDL equivalent of Internet services were provided to users in 2007 (it is 15,3% more than in 2006). The Internet penetrate rate constitutes 3.22%, which is one of the smallest indicators in the region and speaks about the level of Internet service development in Moldova.

Out of 111.200 users, only 47.200 are using broadband Internet. The rest are using dial up. The broadband Internet penetration rate constitutes **1.38%**, which is extremely low for having a positive impact on life quality and conditions for business development in Moldova.

According to empiric analysis, social life starts changing when Internet penetrate rate is higher than 20%. This rate represents the number of users who generate real opportunities for businesses, governmental bodies and other agencies. These users represent the driving force for creating new on-line services with a higher added value, for changing the industrial, trade and service approaches.

In Moldova Internet is virtually not used for creating added values. The main users are private entities, who use Internet as a means for entertainment and source of information. Business and government are slow at displaying information online and are reluctant for showing the business operations through communications networks.

According to a report made at the "Global Informational Technologies" forum, in 2007 Moldova was on place 96 according to the demand for information technologies out of 127 countries. This evaluation speaks about slow dynamics of the informational society development in Moldova.

Low Internet development in Moldova on one hand is a positive factor for providers. There are new users on the market ready to start using Internet service or change connection type from dial up to broadband (this is another positive tendency in 2007 registered on the market – user migration from dialup to broadband connection technologies).

However there is no rapid dynamics for Internet connections (similar to mobile phones) in Moldova. There has been a double increase of broadband connections in 2007 (from 21.792 to 47.164)[1], despite the falling prices, advertising of free connections and available access to xDSL technology.

In 2007, investments in Internet development constituted 107,6 mln MDL (36,2% more than in 2006). Taking into account that investments are mainly done in building new lines and network upgrade for increasing its transfer capacity, then it can be assumed (with a certain approximation, due to lack of detailed statistical data; investments in backbone lines create a reserve capacity for future connections) that a company had to spend on average a couple of thousands MDL for every new user in 2007. Only a bigger number of users can bring down these costs.

[1] Statistical data is taken from "REPORT on activity of National Regulatory Agency for Telecommunications and Informatics and Development of Telecommunications and Informatics Market in 2007 (www.anrti.md), if other references are not indicated

According to several experts and business representatives, high investment rate per one user, which only big market operators can afford (the share of MTC in total Internet investments constitutes 54.4%; another 20.4% of investments were made by I.S. “Centrul de Telecomunicatii Speciale”, which is building and developing a special network for government purpose), in conditions of unclear and unloyal competition framework on the telecommunication market of Moldova, constitute the main constraint for Internet development in Moldova and key reason for high service prices.

Internet service providers in Moldova

According to the information provided by the Agency there were 25 Internet providers registered in Moldova by the end of 2007. Using technology and territorial criteria the following information can be summarized in the table below:

Table 1. Main Internet providers in Moldova[2]

Company	Total market share	Broadband market share		FTTx	xDSL	Cable	Dial up	Territorial coverage
	Sales	Users	Sales					
MTC	49%	59.1%	38.5%					Chisinau – broadband Moldova — dial up (personal Internet) - xDSL (county centers)
TMG	10,7%	4.6%	14.6%					Chisinau – broadband, dial up Moldova - xDSL (some cities)
Starnet	9.6%	14.5%	15.1%					Chisinau
Arax	4.9%	n/a	7.6%					Chisinau
Sun Internet	n/a	10.5%	5.1%					Chisinau Balti
Other	22%							

TMG and Arax also have backbone optical lines. However these providers mainly offer access through phone lines (separate phone lines or xDSL technology). Some companies have a small pool of users (relatively small market share by number of users) and high revenues. This can be explained by positioning on corporate client segment, where the revenue is higher per client due to Internet speed and service quality.

Almost all Internet providers work in Chisinau. Internet access is provided by MTC throughout the country, by TMG in separate regions. Other small regional companies cover separate cities with last mile networks connected to MTC.

Three leading companies (MTC, Starnet, TMG) hold 70% of the Internet market share. However the share of these providers is not stable. In 2007 market share was redistributed:

- MTC share grew to 49% from 43% in 2006. In the broadband segment the share reached 59.1% for all connection types (up from 42.7% in 2006). This is explained by new MTC optical fiber, FTTx connection technology and more aggressive price policy as MTC offered cheaper service starting from MDL 120. In 2006 the cheapest MTC Internet price MDL 360, while other private operators were offering limited price packages.

[2] Data in the table is presented based on Agency Report (information on market share) and information from corporate websites (information on user connection technologies and territorial coverage).

- The share of cable connections handled by Sun Itnernet (according to Agency report for 2007 and 2006) fell to 10.5% from 15.9%, which continued the tendency registered in 2006 (in 2005 Sun Internet covered more than 20% of the broadband Internet market) [3].
- The share of other operators remains relatively stable. However if xDSL technology that 78% of broadband Internet clients are using, will lag behind due to bad city line and real or declarative nature of limited free ports at the dialing office, coupled with losing popularity dial up, then it can be assumed that the share of xDSL and dial up providers will decrease proportionally with increasing number of FTTx technology providers.

In the end of 2007 and beginning of 2008 two initiatives were launched which can influence the Internet market development:

- I.S. "Radiocomunicatii" announced its plans about building a WiMax network
- The government intends to issue 4 licenses for building 3G networks (UMTS standards) for mobile phone operators

The wireless WiMax and UMTS technologies have significant potential for providing broadband Internet services. Today, these networks are widely used in several countries, however the revenues from using this network are different due to excessive service required and related costs.

There is no univocal answer whether new technologies will radically change the Internet market or not.

[3] Conclusions are drawn based on statistical data from the following sources:
- REPORT On activity of National Regulatory Agency for Telecommunications and Informatics and Development of Telecommunications and Informatics Market in 2007
- REPORT On activity of National Regulatory Agency for Telecommunications and Informatics and Development of Telecommunications and Informatics Market in 2006
Both reports are published on Agency website (www.anrti.md)

Competition factors – A model for Internet service market

There are three factors which determine the competitiveness of an Internet provider in Chisinau:

- Price and attractive offer for the end-user
- Quality and Internet speed stability
- Possibility for connecting new users

Additional factors can be P2P network support or growing tendency for integrating phone and television with Internet, which helps making each of these services cheaper rather than purchased separately.

Broadband price analysis

Due to the fact that Internet becomes a standard service, price varies slightly depending on provider. Some companies (MTC, Arax) establish the price in MDL. Starnet and Sun Internet bind the price to Euro and TMG – to USD.

Table 2. Prices and packages offered by key providers in Moldova[4]

Company	Connection price	Package cost (LEI)	Connection speed	Traffic
MTC				
MaxFiber (FTTx)	Free (during promotion period)	150 – 200 – 300 – 400	512 kbps – 3 – 5 - 7 mbps	Unlimited
MaxDSL (ADSL)	Free (during promotion period)	120 - 240 – 360 – 480	128 kbps - 3 – 5 - 7 mbps	Unlimited
Starnet				
Fiber Link (FTTx)	Free (during promotion period)	144 – 176 – 224 – 304	512 kbps – 2 – 4 – 6 mbps	Unlimited
ADSL	Free (during promotion period)	176 – 224 – 304	2 – 4 – 6 mbps	Unlimited
TMG				
ADSLucky (Light Leader)	MDL 500 + modem (free promotions)	120 - 180 - 300	512 kbps - 3 – 5 mbps	Unlimited
Arax				
SETI Fasternet	N/A	150 – 200	512 kbps – 1 mbps	Unlimited
SunInternet				
Sun Internet	Free for packages from 512 kbps, otherwise -25 euro	112 – 176 – 304	512 kbps - 1 – 2 mbps	Unlimited

[4] Data about Internet offers indicated on company website. Prices in Euro and USD were calculated in MDL at 16 MDL = 1 EURO exchange rate; 1USD = 10 MDL
Prices are available as of June 3, 2008. Starting with June 1, 2008 Sun Internet and TMG have different conditions for users.

Besides standard package price, users have to pay additional MDL 48 rent for using MTC phone line when connecting to private xDSL providers. This makes the price offered by private companies higher and generates additional revenues for MTC.

From the number of big Internet providers only Sun Internet was offering access to Internet at a higher than average market price. As a consequence the company is now losing the market share. Private Internet providers are offering different traffic packages, which are more flexible than MTC offers (including small fee for traffic at a high speed) and therefore more attractive for different users.

Depending on connection technologies MTC is offering cheaper Internet with FTTx than xDSL. Starnet has practically equal prices for FTTx and xDSL connection (there is no MTC payment for FTTx).

The general tendency on the Moldovan market is to maintain the Internet price rates and increase the service quality (data transmission speed). Providers keep the package price at the minimal level of 100 – 120 lei, but are forced to increase the speed in standard packages.

A positive factor of the growing competition on the market is also the widespread free connection (usually offered during sales promotion). This is a tool applied by large providers for attracting clients, when big packages are bought or long term contracts signed. Usually connection is expensive and includes labor time and modem purchase. The total connection cost can rise to **USD 100.**

An important factor which can contribute to the Internet market development would be excluding traffic limitation. Users pay for Internet speed rather than amount of information they receive or transmit. This feature is characteristic to developed markets.

Service quality and stability

Internet service quality and stability constitutes a subjective issue. Users do not always receive the promised speed and there are frequent network failures. Users registered in forums where issues about Moldovan Internet are discussed complain almost about every provider.

The cardinal problem is Internet speed which cannot be guaranteed. Internet users usually receive from 45% (during busy and bad days) to 80% of promised speed. This can be explained by the fact that providers sign more contracts with users than the actual line capacity. It is considered that clients will not use Internet at the same time. Providers also have frequent network failures (interrupting service supply for some time).

Today, Internet providers learned that the risk for overloading the network in Moldova determines service stability. Due to agreements reached between providers and their line interconnection, users can now enjoy free traffic in Moldova at 100 mbps speed. As P2P became more popular, and users started to download more information, there were cases when separate network sections in Moldova were overloaded. Therefore other users could not use Internet at the same speed while network overload.

Moreover, the local network which is the main asset of providers is used for free. Therefore the next step for Internet development in Moldova will be excluding the traffic limitations between local and external networks.

The general tendency is to increase the service quality and guarantee the speed according to the value indicated in contract. However it can be inferred that there is adequate Internet quality and reliability in Moldova. If users ask providers to guarantee speed, companies can sign additional contract and deliver this service for an extra charge.

Customer access to Internet and competition for clients

In conditions of a relatively equal speed and prices, the determinant factor for attracting new clients becomes the physical access to providers' lines. This issue becomes critical in the race for clients – the first one who manages to build a new line has more chances to gain clients.

Users are queued for connection. Waiting period can be few days up 30 days, depending on the region of the city.

Historically, the MTC phone line was build to every house (apartment, office). Providers had to rent the line, or users were using the phone line to connect to providers' network. As Internet started to develop, the existing phone network is not sufficient for the rising number of clients wishing to use Internet.

Additionally, when MTC launched xDSL in 2005, providers were refused additional ATS capacities for their equipment, because MTC was using these capacities for running xDSL. As a consequence, private Internet providers could not extend their business operations. Moreover, the contracts between private companies and MTC for installing DSL equipment at MTC connection centers were signed for one year, which did not guarantee the business continuity.

Having these conditions, companies started building their own networks (last miles and backbone networks across the city) for independent development from MTC.

The following providers develope their own networks in Moldova today:

Table 3. Network lines of the main Internet providers in Moldova (except from MTC)[5]

Company	Network type	Coverage	Network length	Comments
Starnet	Optical fiber	Chisinau (some regions of the city)	300 km	

[5] Information was collected on websites of Internet providers

TMG	Optical fiber + radio transmission	Chisinau + Moldova	40 km	Optical fiber length
Arax	Optical fiber	Chisinau	n/a	Backbone network SETI
MTC	Optical fiber	Chisinau	n/a	
"Centrul de Telecomunicatii Speciale"	Optical fiber	Chisinau	50 km	Special network of the public administration bodies
SunINternet	Cable	Chisinau, Balti	n/a	

Today, none of the companies has optical fiber network which would cover entire Chisinau.

The main problem that companies face when building their lines is renting the wells and overhead lines, which are the property of MTC. Rent is a cost factor which increases the expenditures of private companies, while MTC when providing Internet access is only incurring costs for maintaining the wells. It is obvious that this cost is smaller than the rent, which generates the prices difference. In addition renting MTC infrastructure constitutes an administrative obstacle.

Building new lines also relates to the internal infrastructure of the buildings which are receiving internet lines. Historically MTC is the only owner of the channels. Thus companies (Starnet, Sun Internet) expose them to vandal risk.

From the above analysis it can be concluded providers can be divided on market leaders and outsiders. Leaders are developing the network and can be more flexible when determining the price and connection means.

It is important for users that there are competing companies, as this creates new possibilities. However from the economic point of view, building competing lines, which double each other, means high investment, which users will have to recover.

Additional competition factors on the market

Besides price, quality and access to users, there other factors in Moldova which influence providers:

- MTC monopoly on external backbone lines
- Subsidized Internet from MTC at expense of casual phone line services
- MTC control over local data exchange, because providers have to connect their networks to MTC lines

The most important factor mentioned above is subsidized MTC Internet at expense of other sources of revenue; company capacity to invest its revenues in Internet development. The company owns big historical infrastructure (sewage network, overhead lines, last mile networks), which is not necessary to develop or return investments, as it was already done in the past.

MTC monopoly on external Internet collapsed after radio channels with Romania were built. Such channels are owned by Starnet (~ 450 mbps) and TMG (~72 mbps). Today these channels are rather kept as back-up and have a small share of operators' traffic coupled with rented MTC channels. The total MTC channel capacity is reaches 2.6 gbps.

The last problem occurred in the middle of 2007 when MTC decided to charge providers an additional cost for connecting to monopoly's network (Providers are connected between them through this network. Prior there was an agreement about free interconnection, which resulted in free Moldovan traffic for end-users). However, there can be found a solution to this problem and even if MTC has a strict position operators can resort to double side connections.

> In 2007, Moldovan Railway Company, started a project for building its own optical fiber line from Chisinau to Ungheni. A Chisinau company called SRL "Normal" was contracted for this work. The project was elaborated as follows – two cables, one of them was going to be property of the railway company and used for as a phone line. The second cable would belong to Norma and could be used as alternative for providers to access external Internet.
>
> The project was blocked through administrative intervention.

In 2007 companies started to feel the need for higher independence from MTC, which is starting to lose its monopolistic market control and is forced to resort to free competition with price and service quality rather than rely on administrative constraints over the market which can now be overcome (e.g. Starnet and TMG can resort in future to increasing the capacity to external channel and transmission equipment. So far it is more reasonable for them to develop their own networks and purchase the external channel from MTC).

Provider behavior on the market

Taking into account that Internet is becoming a standard service and competition in this sector is increasing, companies have to seek other competition tools than price:

- Telecommunication service integration (Internet, phone) and digital TV within one network. Such services are offered by Starnet, TMG, Arax and partly by Sun Internet (cheaper cable TV services compared to standard package).

  As a result, each service becomes cheaper for the end-user.

- Promoting brands and building company image on the market. This work is mainly done by Arax with its SETI project – administrative optical fiber line with Internet access, digital television and phone services. Sun Internet is also working on building its image;

- Access to P2P data exchange networks. This service was actively promoted by Starnet, which offers a good data transmission speed in Moldova for downloading large video and audio files.

Currently there is no major brand competition (a type of competition that cell phone companies are having). Internet providers are concentrated on building new lines and attracting new clients, rather than stealing clients from each other. It can be also noticed that companies are not developing or promoting brand loyalty programs for maintaining its users, because the technical change of operators is difficult to accomplish.

Market regulation

Currently in Moldova there is a market liberalization process carried out, which started in 2004. In March 2008, the law on electronic communications was adopted, and replaced the preceding document about telecommunications. A new director of the ANRCETI was appointed as well.

The new law is emphasizing the importance for an interdependent market regulator, such as ANRCETI, empowered to regulate separate companies and negotiate conflict situations. The law contains stipulations concerning market dominance, however lacks universal rules for market liberalization. Therefore it can be inferred that the market is not governed by rules, but rather controlled by a governmental body, which will interpret and implement these rules itself.

As a result the agency receives greater authority for controlling the market (in the past the Agency also had great control authority). The use of its authority (law interpretation, adopting decisions in conflict situations) will depend on political occasions and operators fight for influencing decision making people.

In any case, the Internet market in Moldova is under state's control and private Internet providers have little influence for regulating the market. They are dependent on state bodies and leading market companies.

From the customer or private company's point of view there is no counterbalance to growing state control. Companies are trying to establish an association but there has not been much progress in this regard

Recommendations and directions for developing the Internet market in Moldova

Specific to the telecommunication market in Moldova is the interdependence between companies (mainly about network interconnection), high investments for building new lines and geographical dependency on the country or region where the line is built. This is why the state plays a certain role in other countries for regulating the market and monitoring that "game rules" are respected. This would help companies to increase their business with a moderate risk degree.

The fundamental problems, which the Moldovan government has to address, can be divided into two sections:

- Stimulating Internet demand from business and population by transposing government issues online;

- Encouraging the development of modern networks and access technologies, especially outside of Chisinau, with a maximal economic effect and avoiding the network duplication;

Progress can be reached not only with large investments. Significant progress can be achieved through rational and gradual policy elaboration.

The state agencies responsible for telecommunication development have to determine: whether to regulate the market and develop gradually the modern networks using administrative resources, or give the market possibility to develop alone having a competition framework.

Issues and suggested solutions:

Issue	Administrative approach	Market approach
Develop online state services for population and companies	Establishing these services using budget resources or donations	Providing concessions to operators for delivering paid services to private companies
Developing modern backbone lines (optical fiber networks)	Difficult to apply, due to administrative constraint and assumed responsibilities for liberalizing the market in Moldova	Providing non-discriminating access to private companies to telecommunication wells (this becomes possible when allocating the infrastructure to a separate enterprise, which suggest providers a single fee) + policy liberalization for backbone line development in Moldova;
Providing an optimal utilization of lat mile networks for connecting any user to any provider	Difficult to apply due to administrative constraint	Transferring the building communication lines property rights to house residents (starting when the line enters the house) with possibility to choose independently Internet provider and operate the lines according to a signed contract;
	Ensure mutual line connection of different operators and conducting a technical audit of the networks of each operator or introducing minimal requirements;	
Ensure competitive tariffs and protect competition	Conducting an audit of expenditures and validating providers' tariff calculation	Dividing MTC into separate businesses for avoiding service subsidy from other revenues

The above mentioned problems have long been known and given to state officials for examination. Answers to these problems are also known and do not require new decisions to be elaborated. There should be a political will for implementing these recommendations, which can contribute to developing Internet according to market standards.